ABSTRACT OF THE DISCLOSURE

A vehicle software installation, upgrade, and diagnostic system for use in vehicle assembly, upgrade, and repair, includes a portable memory device, such as a USB flash disk. The device receives diagnostic information via an open architecture communications port of a vehicle, such as a USB port. An external processor has a complimentary open architecture communications port and is adapted to receive and analyze the diagnostic information from the portable device. According to various aspects, analysis of the diagnostic information verifies successful installation and testing of vehicle software transferred from the portable device to vehicle processors, identifies software versions resident on the vehicle and related upgrade history for download and installation of an appropriate software upgrade, and/or diagnoses vehicle problems in accordance with sensed vehicle conditions and predetermined fault detection criteria.